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Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in this patent application:

Claims 1 to 12. (canceled)

13. (currently amended) A method for producing a mold ~~mechanical part~~ by computer-aided design including a preliminary step in which body portions of the mold ~~[[part]]~~ are broken down into elementary strata, followed by steps including manufacture of the elementary strata to form manufactured strata and reconstruction of the mold ~~[[part]]~~ by superposing and assembling the manufactured strata, wherein the method comprises the steps of:

defining ~~a at least one~~ fluid transport circuit in the mold ~~[[part]]~~;

breaking down the fluid transport circuit into a plurality of elementary chambers as part of the break-down of the mold ~~[[part]]~~ and during the break-down of the mold ~~[[part]]~~;

producing the elementary chambers in the manufactured strata during the manufacture of the manufactured strata; and

completely reconstructing the fluid transport circuit during the superposition and the assembly of the manufactured strata;

breaking down an isolating circuit coupled with the fluid transport circuit into elementary isolating chambers as part of the break-down of the mold and during the break-down of the mold;

producing the elementary isolating chambers in the manufactured strata during the manufacture of the manufactured strata; and

reconstructing the isolating circuit during the superposition and the assembly of the manufactured strata.

14. (canceled)

15. (currently amended) A mold ~~mechanical part~~ including a body having a at least one fluid transport circuit comprised of a plurality of channels formed in the body at a predetermined distance from a heat exchange surface associated with the body, and an isolating circuit spaced from and coupled with the fluid transport circuit, wherein the body, part ~~and the fluid transport circuit and the isolating circuit~~ are produced by the method of claim 13 ~~[[or 14]]~~, wherein the fluid transport circuit and the isolating circuit are ~~[[is]]~~ completely reconstructed during the assembly of the manufactured strata, ~~[[and]]~~ wherein the plurality of elementary chambers are provided in a at least one portion of the manufactured strata and are placed in fluid-tight communication, and wherein the plurality

of elementary isolating chambers are provided in another portion of the manufactured strata and are placed in fluid-tight communication.

16. (currently amended) The mold ~~mechanical part~~ of claim 15 wherein, following reconstruction of the manufactured strata, the fluid transport circuit forms a three-dimensional network of channels in the body of the mold [[part]] which follow surface portions of the mold [[part]] at a predetermined distance from the surface portions.

17. (currently amended) The mold ~~mechanical part~~ of claim 15 wherein, following reconstruction of the manufactured strata, the fluid transport circuit forms a layer-shaped chamber in the body of the mold [[part]].

18. (currently amended) The mold ~~mechanical part~~ of claim 15 wherein the fluid transport circuit includes a connection to a temperature regulating device.

19. (currently amended) The mold ~~mechanical part~~ of claim 15 wherein interior portions of the fluid transport circuit include a plurality of transverse fins which provide ~~providing~~ mechanical reinforcement and which stir ~~stirring~~ the fluid.

20. (canceled)

21. (currently amended) The mold ~~mechanical~~ part of claim 15 [[20]] wherein the isolating circuit is comprised of a plurality of follower channels.

22. (currently amended) The mold ~~mechanical~~ part of claim 15 [[20]] wherein the isolating circuit forms a layer-shaped chamber.

23. (currently amended) The mold ~~mechanical~~ part of claim 15 which further includes a mechanical adhesive between the manufactured strata on regions of the body [[part]] extending from the channels to outside portions of the mold [[part]], and an adhesive with a predetermined thermal conductivity on regions of the body [[part]] extending from the fluid transport circuit to surface portions of the mold [[part]].

24. (currently amended) The mold ~~mechanical~~ part of claim 15 wherein the fluid transport circuit is filled with a fluid selected from a group consisting of a heat exchange fluid, a thermal insulation fluid, a liquid material, a pulverulent material and a marking fluid.

25. (canceled)

26. (previously presented) The method of claim 13 wherein the elementary chambers are produced in the manufactured strata before the manufactured strata are reconstructed to form the fluid transport circuit.

27. (currently amended) The method of claim 13 which further includes the step of combining the elementary chambers of the fluid transport circuit to form a cooling circuit in the body of the mold [[part]].

28. (currently amended) The method of claim 27 which further includes the step of combining the elementary chambers of the fluid transport circuit to form a three-dimensional network of channels in the body of the mold [[part]].

29. (currently amended) The method of claim 27 which further includes the step of combining the elementary chambers of the fluid transport circuit to form a layer-shaped chamber in the body of the mold [[part]].

30. (currently amended) The method of claim 13 wherein the step of producing the elementary chambers in the manufactured strata ~~of the part~~ further includes the step of forming the elementary chambers in surface portions of the manufactured strata, to a depth which is less than a defined thickness of

the manufactured strata.

31. (previously presented) The method of claim 30 which further includes the step of combining the elementary chambers of the fluid transport circuit with surface portions of adjacent manufactured strata, to form the fluid transport circuit.

32. (currently amended) The method of claim 13 ~~[[14]]~~ which further includes the step of combining the elementary isolating chambers of the isolating circuit to form a thermal barrier between the fluid transport circuit and side and bottom portions ~~the body~~ of the mold ~~[[part]]~~.

33. (previously presented) The method of claim 32 which further includes the step of forming the thermal barrier as a continuous thermal barrier.

34. (currently amended) The method of claim 33 which further includes the step of combining the elementary isolating chambers of the isolating circuit to form a network of follower channels in the body of the mold ~~[[part]]~~.

35. (currently amended) The method of claim 33 which further includes the step of combining the elementary isolating

chambers of the isolating circuit to form a layer-shaped chamber in the body of the mold [[part]].

36. (new) The method of claim 13 which further includes the step of producing the elementary chambers and the elementary isolating chambers during the manufacture of the manufactured strata.

37. (new) The method of claim 36 which further includes the step of simultaneously producing the elementary chambers and the elementary isolating chambers.